The application contains claims 8-11, 13 and 14. Claims 1-7 and 12 have been

canceled.

Claims 10 and 11 were allowed by the examiner prior to the Board's decision. The

examiner's rejection of claims 13 and 14 was reversed by the Board.

Reconsideration of the rejections of claims 8 and 9 under 35 USC 102 as anticipated by

Kobayashi et al (US 4,589,299) and under 35 USC 102 as anticipated by Thrasher, Jr. et al (US

4,885,948) is respectfully requested.

Applicant has amended claim 8 to recite that "the worm (30) is produced by reshaping

the armature shaft (12) after the armature assembly is mounted on the armature shaft" so as to

leave no doubt that the worm is produced by reshaping the armature shaft after the armature

assembly is mounted on the armature shaft.

Kobayashi et al describes an armature shaft onto which, by means of rolling, two worms

are formed, one with counterclockwise threads and the other with clockwise threads. The outer

diameter of these worms is the same as or less than the diameter of the remainder of the armature

shaft 16. It is, therefore, possible for all the components parts of the armature shaft, for example,

the bearing 31, commutator 15, and armature packet 14, to be thrust onto the armature shaft 16

over the worm after the rolling operation. In Kobayashi et al, there is no teaching or suggestion

that the worm is formed after all the armature component parts are assembled on the armature

shaft as required by claim 8. On the contrary, the larger diameter of the armature shaft is an

indication of the order of assembly, which is conventional in the prior art, that is, first, the worm

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is produced by shaping and, then, the individual parts of the armature are mounted to the shaft.

One of ordinary skill in the art would not have been taught by Kobayashi et al to first mount the

individual component parts of the armature on the armature shaft and then, only after completion

of the assembly, forming the worm by reshaping.

Thrasher also shows an electric motor with an armature shaft 18, onto which a worm is

formed by means of rolling. The outer diameter of the worm 20 is greater than the diameter of

the armature shaft. The shaft is supported in the housing by means of bearings 24 and 26.

Disposed between the armature packet 16 and the worm 20 is a damper 28, which is intended to

damp vibration of the armature during operation. The inside diameter of the damper is greater

than the outside diameter of the worm 20. Thrasher teaches, beginning at col. 2, line 67, that

"[t]he inner diameter 36 of the collar 30 is large enough so that the damper 28 can slide over the

worm 20, which may be formed by rolling and therefore have a diameter greater than that of the

armature shaft 18." Also, Thrasher teaches, beginning at col. 3, line 14, that "[t]he fingers 32 are

of a spring-like nature that allows the armature shaft 18, including worm 20, to be installed into

the gear housing 14 through the damper 28." That is, the damper 28 is thrust over the armature

shaft expressly after the forming of the worm on the shaft. Thus, Thrasher specifically teaches

away from the limitation found in applicant's claim 8 requiring that the worm be formed on the

shaft after the bearings and other armature components have been put in place on the shaft.

To support a rejection of a claim under 35 U.S.C. § 102(b), it must be shown that each

element of the claim is found, either expressly described or under principles of inherency, in a

single prior art reference. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ

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781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984). Neither Kobayashi et al nor

Thrasher teaches a method for producing an armature shaft of an electric motor having a worm

of the type recited in claim 8 in which the worm is produced by reshaping the armature shaft after

the armature assembly is mounted on the armature shaft. Thus, neither Kobayashi et al nor

Thrasher anticipates claim 8 or claim 9.

Entry of the amendment and allowance of the claims are respectfully requested.

Respectfully submitted,

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